

from an examination of records (comprising two different spot periods) that the number, duration and violence of cyclones in the Indian Ocean have been greatest at a spot maximum—that is, when the energy of the sun was most pronounced—decreasing to a minimum in length and fierceness at the point when the solar maculation was least. Comparing the number of cyclones at two successive maxima of spots with those at two successive spot minima, I find that the ratio is nearly that of two to one. Indeed, Sir Norman Lockyer has expressed the view—perhaps too broadly—that the entire question of cyclones is simply a question of solar activity. This connection we can understand: at a period of extensive spots the sun's energy is at its maximum, and the communication of that augmented activity to our atmosphere accounts for the causation of winds of exceptional severity.

5. It would naturally follow that the number of shipwrecks and consequent marine insurance claims would vary directly with the frequency of destructive storms, and Mr. H. Jeula, from an examination of the records of losses at Lloyd's, and adopting two complete cycles of eleven years each, has ascertained that, during four years of each cycle when fewest spots appeared, the average percentage of loss in respect of registered vessels of the United Kingdom and the Channel Islands was 11*13, while during the three years of the greatest spot frequency the percentage was 12*49, or an excess of more than 12 per cent beyond the smaller figure.

6. Dr. Hunter, Director-General to the Government of India, has shown the periodicity of famines in Southern India caused by the failure of the rice crops as the consequence of deficient rainfall or drought, and that famines coincide with the minimum period of spots—the term of the recurrence of famines being nearly eleven years, or showing

the same interval of
time as that of sunspot freedom.
Here again we may con
ceive that since the comparative absence
of spots implies the
more unbroken expanse of the
photosphere, a larger supply of
heat is radiated, with a consequently
increased evaporation of
water from rivers and streams in the form
of aqueous vapour,
It has been shown by Dr. Meldrum that the
rainfall was greater
at times of maxima of sunspots.